1509 Main Street, Suite 900
Dallas, Texas
75201-4809

214/744-1641

file

# ICF TECHNOLOGY INCORPORATED

**MEMORANDUM**

TO: David Wineman, RPO, USEPA Region 6

THRU: K.H. Malone, Jr., FITCM KHM

THRU: Timothy A. Hall, AFITCM-TAH

FROM: Terry D. Pierce, FIT Chemist TDP

DATE: June 28, 1988

RE: Union Carbide Corporation PA Reassessment
Brownsville, TX
Cerclis No. TXD008114092
TDD No. F-6-8805-10
PAN No. FTX0766PAA

The FIT was tasked to conduct a PA reassessment of the Union Carbide Corporation (UCC) facility located in Brownsville, TX. The facility is a butane oxidation plant which is capable of producing acetic acid, methyl ethyl ketone, ethyl acetate, formic acid, acetic anhydride and propionic acid.

The last CERCLA action for this facility was in the form of a site inspection dated February 12, 1981 (see Attachment A). Several events have occurred since the last CERCLA activity. UCC idled the plant and released its local employees in March, 1983. In January, 1984, UCC decided to sell the facility. To date, it is unknown whether UCC still owns or has sold the facility. In November, 1985, UCC proposed a RCRA closure (full-facility closure) for its plant in Brownsville. The closure plan was approved by the Texas Water Commission (TWC) on September 26, 1986. Closure began on April 27, 1987. Closure inspections were conducted by the TWC on April 30, 1987 and June 16, 1987. The June 16, 1987 inspection noted that closure was not complete and file information is lacking after this date concerning other inspections and a closure completion date.

The UCC facility has four solid waste management units (SWMU). The facility utilized a ball mill residue basin (surface impoundment), an incinerator, and two above ground tanks. The ball mill residue basin received ball mill residues, spent caustic soda and solids from sumps, tanks and other processing equipment. Chromium waste and corrosive wastes were also deposited in the basin. The incinerator handled 2,000 tons of waste annually which was comprised of ignitable wastes and formic acid. The incinerator has not been

June 28, 1988

Union Carbide Corporation PA Reassessment
Brownsville, TX
Cerclis No. TXD008114092
TDD No. F-6-8805-10
PAN No. FTX0766PAA



used since 1978. File information did not address where the incinerator ash was disposed prior to 1978. All four units were included in the RCRA closure approved by TWC.

On May 4-6, 1982, UCC installed four monitoring wells around and near the ball mill residue basin under the direction of the TWC (see Attachment B). From the soil borings there appears to be a sand aquifer 1.5 to 4.5 feet in thickness occurring 13.5 to 16.5 feet below the ground surface. Below this unit there is a sandy clay with sand seams. Ground water quality from the four monitoring wells appears to be brackish to saline based upon the total dissolved solids content of the samples collected on December 2, 1982 and November 29, 1983. Concentrations range from 9,000 to 69,000 mg/L for Total Dissolved Solids (TDS), the majority of which appears to be sodium and chloride.

Ground water contamination appears to have occurred near the ball mill residue basin based upon a TWC letter to UCC dated June 22, 1986 (see Attachment C). The letter makes no reference to the substance or substances which has contaminated the ground water.

Ground water in the shallow aquifer does not appear to be utilized for drinking, irrigation, industrial or livestock in light of its brackish and saline qualities. General ground water maps of the area show ground water of usable quality approximately 7 miles west of the facility near Brownsville (see Attachment D). This water bearing formation near Brownsville is the alluvium aquifer of the Rio Grande River. Geological and hydrogeological data appears to be lacking concerning whether the shallow aquifer underneath the facility is in contact with the alluvium aquifer near Brownsville. The EPA Notification of Hazardous Waste Site form for this facility notes in Section I (see Attachment E) that test wells found no potable water source within 8 miles of the facility. This leaves the question of whether there are irrigation or industrial water wells in the area.

A Preliminary Assessment, EPA Form T2070-2, (see Attachment F) was conducted for the UCC facility on April 1, 1980. Section V.C.4. notes the burial of asbestos mats by a previous owner of the facility, but does not mention the location of the burial. Another form (see Attachment G) states the location and the amount of asbestos buried. File information concerning the condition of the asbestos landfill after April 1, 1980 is lacking.

FIT recommends a site inspection to determine the present condition of

June 28, 1988

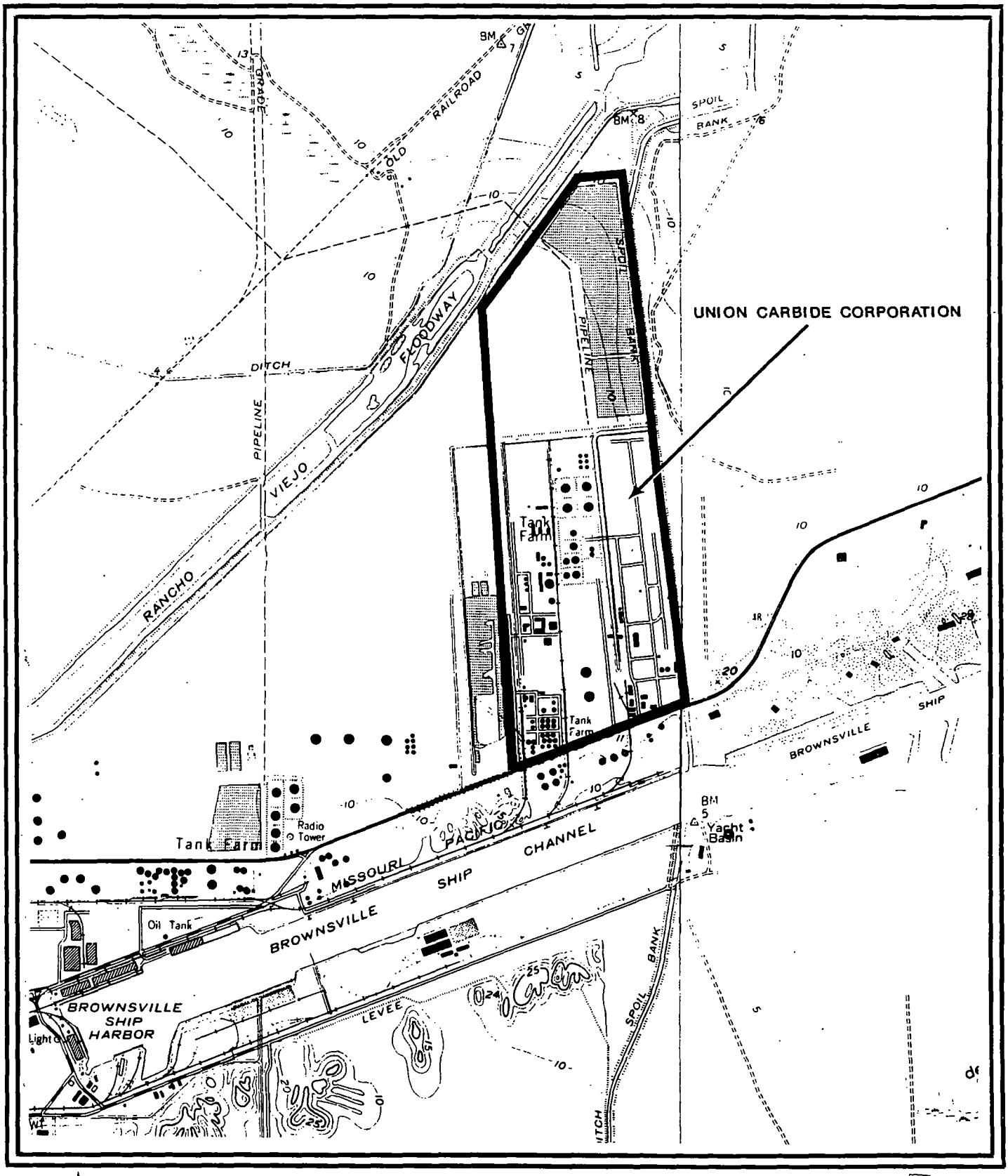
Union Carbide Corporation PA Reassessment
Brownsville, TX
Cerclis No. TXD008114092
TDD No. F-6-8805-10
PAN No. FTX0766PAA



the facility and the condition of the asbestos landfill and to ascertain potential hazards to surface and ground waters in the vicinity. FIT also recommends a water well reconnaissance within 3 miles of the facility. FIT recommends further investigation into the disposal practices of UCC concerning the ash from the incinerator.

TDP/tdp

ICF




SITE LOCATION MAP

# UNION CARBIDE CORPORATION

BROWNSVILLE, TX

CERCLIS NO. TXD008114092

TDD NO. F-6-8805-10

PAN NO. FTX0766PAA

SCALE 1 : 24000


QUADRANGLE LOCATION

EAST BROWNSVILLE, TEX.

PALMITO HILL, TEX.

ATTACHMENT A

EPA → NOTE

EPA

**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**

| REGION | SITE NUMBER (To be assigned by HQ) |
|---|---|
| 6 | TX 00639 |

**GENERAL INSTRUCTIONS:** Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (Section II). File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

## I. SITE IDENTIFICATION

| A. SITE NAME | B. STREET (or other identifier) | | |
|---|---|---|---|
| Union Carbide (formerly Brownsville Plt.) | Port of Brownsville | | |
| **C. CITY** | **D. STATE** | **E. ZIP CODE** | **F. COUNTY NAME** |
| Brownsville | Texas | 78520 | Cameron |

**G. SITE OPERATOR INFORMATION**

| 1. NAME | 2. TELEPHONE NUMBER | | |
|---|---|---|---|
| Union Carbide Corp. - Chemical & Plastics | (512) 831-4501 | | |
| **3. STREET** | **4. CITY** | **5. STATE** | **6. ZIP CODE** |
| Port of Brownsville | Brownsville | Texas | 78520 |

**H. REALTY OWNER INFORMATION (If different from operator of site)**

| 1. NAME | 2. TELEPHONE NUMBER | |
|---|---|---|
| Brownsville Navigation District | (512) 831-4592 | |
| **3. CITY** | **4. STATE** | **5. ZIP CODE** |
| Brownsville | Texas | 78520 |

**I. SITE DESCRIPTION** Clay lined pit (app. 200' X 200' X 10' deep) formerly used to dispose of iron oxide, ball mill residue, caustic soda - closed 1975.

**J. TYPE OF OWNERSHIP**

☐ 1. FEDERAL ☒ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☐ 5. PRIVATE

## II. TENTATIVE DISPOSITION (complete this section last)

| A. ESTIMATE DATE OF TENTATIVE DISPOSITION (mo., day, & yr.) | B. APPARENT SERIOUSNESS OF PROBLEM |
|---|---|
| 2-10-81 | ☐ 1. HIGH ☐ 2. MEDIUM ☒ 3. LOW ☐ 4. NONE |

**C. PREPARER INFORMATION**

| 1. NAME | 2. TELEPHONE NUMBER | 3. DATE (mo., day, & yr.) |
|---|---|---|
| John Sturgis | (512) 968-3165 | 02-12-81 |

## III. INSPECTION INFORMATION

**A. PRINCIPAL INSPECTOR INFORMATION**

| 1. NAME | 2. TITLE | |
|---|---|---|
| John Sturgis | District Supervisor | |
| **3. ORGANIZATION** | | **4. TELEPHONE NO. (area code & no.)** |
| TDWR | | (512) 968-3165 |

**B. INSPECTION PARTICIPANTS**

| 1. NAME | 2. ORGANIZATION | 3. TELEPHONE NO. |
|---|---|---|
| John Sturgis | TDWR | (512) 968-3165 |
| K. G. Townsend | Union Carbide | (512) 831-4501 |
| Wesley McCoy | TDWR | (512) 968-3165 |

**C. SITE REPRESENTATIVES INTERVIEWED (corporate officials, workers, residents)**

| 1. NAME | 2. TITLE & TELEPHONE NO. | 3. ADDRESS |
|---|---|---|
| K. G. Townsend | Safety, Health & Environmental Affairs | Union Carbide - P. O. Box 3370 Brownsville, Texas 78520 |
| | | |
| | | |
| | | |
| | | |
| | | |

RECEIVED BY (INITIALS) Larry Wright DATE 6-17-81

*Continued From Front*

## III. INSPECTION INFORMATION *(continued)*

**D. GENERATOR INFORMATION** *(sources of waste)*

| 1. NAME | 2. TELEPHONE NO. | 3. ADDRESS | 4. WASTE TYPE GENERATED |
|---|---|---|---|
| Brownsville Plant | Unknown | Unknown (closed 1957) | Unknown |
| Union Carbide | (512) 831-4501 | P. O. Box 3370, Brownsville,Tx 78520 | Ball mill residue sodium hydroxide, evap. scale. |
| | | | |

**E. TRANSPORTER/HAULER INFORMATION**

| 1. NAME | 2. TELEPHONE NO. | 3. ADDRESS | 4. WASTE TYPE TRANSPORTED |
|---|---|---|---|
| N/A | | | |
| | | | |
| | | | |

**F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.**

| 1. NAME | 2. TELEPHONE NO. | 3. ADDRESS |
|---|---|---|
| N/A | | |
| | | |
| | | |

| G. DATE OF INSPECTION *(mo., day, & yr.)* | H. TIME OF INSPECTION | I. ACCESS GAINED BY: *(credentials must be shown in all cases)* |
|---|---|---|
| 2-11-81 | 2:30 P | [X] 1. PERMISSION [ ] 2. WARRANT |

**J. WEATHER** *(describe)*
Clear, warm (87°F)

## IV. SAMPLING INFORMATION

**A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.**

| 1. SAMPLE TYPE | 2. SAMPLE TAKEN (mark 'X') | 3. SAMPLE SENT TO: | 4. DATE RESULTS AVAILABLE |
|---|---|---|---|
| a. GROUNDWATER | | No samples collected | |
| b. SURFACE WATER | | | |
| c. WASTE | | | |
| d. AIR | | | |
| e. RUNOFF | | | |
| f. SPILL | | | |
| g. SOIL | | | |
| h. VEGETATION | | | |
| i. OTHER *(specify)* | | | |

**B. FIELD MEASUREMENTS TAKEN** *(e.g., radioactivity, explosivity, PH, etc.)*

| 1. TYPE | 2. LOCATION OF MEASUREMENTS | 3. RESULTS |
|---|---|---|
| No field measurements | taken | |
| | | |
| | | |

Continued From Page 2

## IV. SAMPLING INFORMATION (continued)

**C. PHOTOS**

1. TYPE OF PHOTOS: ☐ a. GROUND ☒ b. AERIAL

2. PHOTOS IN CUSTODY OF: Union Carbide officials

**D. SITE MAPPED?**

☒ YES. SPECIFY LOCATION OF MAPS: Union Carbide Plant @ Port of Brownsville.

**E. COORDINATES**

1. LATITUDE (deg.-min.-sec.): 25° 58' 19"

2. LONGITUDE (deg.-min.-sec.): 97° 22' 21"

## V. SITE INFORMATION

**A. SITE STATUS**

☐ 1. ACTIVE (Those inductrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)

☒ 2. INACTIVE (Those sites which no longer receive wastes.)

☐ 3. OTHER (specify): _____ (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

**B. IS GENERATOR ON SITE?**

☒ 1. NO ☒ 2. YES (specify generator's four-digit SIC Code): 2869

Brownsville plant facility closed down in 1957, U.C. still in operation.

**C. AREA OF SITE (in acres)**

< 1.0 Ac.

**D. ARE THERE BUILDINGS ON THE SITE?**

☒ 1. NO ☐ 2. YES (specify):

## VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

| 'X' | A. TRANSPORTER | X' | B. STORER | X' | C. TREATER | X' | D. DISPOSER |
|---|---|---|---|---|---|---|---|
| | 1. RAIL | | 1. PILE | | 1. FILTRATION | X | 1. LANDFILL |
| | 2. SHIP | | 2. SURFACE IMPOUNDMENT | | 2. INCINERATION | | 2. LANDFARM |
| | 3. BARGE | | 3. DRUMS | | 3. VOLUME REDUCTION | | 3. OPEN DUMP |
| | 4. TRUCK | | 4. TANK, ABOVE GROUND | | 4. RECYCLING/RECOVERY | | 4. SURFACE IMPOUNDMENT |
| | 5. PIPELINE | | 5. TANK, BELOW GROUND | | 5. CHEM./PHYS./TREATMENT | | 5. MIDNIGHT DUMPING |
| | 6. OTHER (specify): | | 6. OTHER (specify): | | 6. BIOLOGICAL TREATMENT | | 6. INCINERATION |
| | | | | | 7. WASTE OIL REPROCESSING | | 7. UNDERGROUND INJECTION |
| | | | | | 8. SOLVENT RECOVERY | | 8. OTHER (specify): |
| | | | | | 9. OTHER (specify): | | |

**E. SUPPLEMENTAL REPORTS:** If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for..

☐ 1. STORAGE ☐ 2. INCINERATION ☒ 3. LANDFILL ☐ 4. SURFACE IMPOUNDMENT ☐ 5. DEEP WELL

☐ 6. CHEM/BIO/PHYS TREATMENT ☐ 7. LANDFARM ☐ 8. OPEN DUMP ☐ 9. TRANSPORTER ☐ 10. RECYCLOR/RECLAIMER

## VII. WASTE RELATED INFORMATION

**A. WASTE TYPE**

☐ 1. LIQUID ☒ 2. SOLID ☒ 3. SLUDGE ☐ 4. GAS

**B. WASTE CHARACTERISTICS**

☒ 1. CORROSIVE ☐ 2. IGNITABLE ☐ 3. RADIOACTIVE ☐ 4. HIGHLY VOLATILE

☐ 5. TOXIC ☐ 6. REACTIVE ☒ 7. INERT ☐ 8. FLAMMABLE

☐ 9. OTHER (specify):

**C. WASTE CATEGORIES**

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

Yes - for Union Carbide (inventories)



Continue On Reverse

*Continued From Front*

## VII. WASTE RELATED INFORMATION *(continued)*

2. Estimate the amount *(specify unit of measure)* of waste by category; mark 'X' to indicate which wastes are present.

| a. SLUDGE | b. OIL | c. SOLVENTS | d. CHEMICALS | e. SOLIDS | f. OTHER |
|---|---|---|---|---|---|
| AMOUNT: Unknown | AMOUNT: | AMOUNT: | AMOUNT: Unknown | AMOUNT: 3000 | AMOUNT: |
| UNIT OF MEASURE: | UNIT OF MEASURE: | UNIT OF MEASURE: | UNIT OF MEASURE: | UNIT OF MEASURE: Cu. Yds. | UNIT OF MEASURE: |
| | | | X (1) ACIDS | | |
| | | | (2) PICKLING LIQUORS | X (2) ASBESTOS | |
| | | | X (3) CAUSTICS | (3) MILLING/MINE TAILINGS | |
| | | | (4) PESTICIDES | (4) FERROUS SMELTING WASTES | |
| | | | (5) DYES/INKS | (5) NON-FERROUS SMLTG. WASTES | |
| | | | (6) CYANIDE | X (6) OTHER *(specify)*: Iron catalyst of $Fe_2O_3$ | |
| | | | (7) PHENOLS | | |
| | | | (8) HALOGENS | | |
| | | | (9) PCB | | |
| | | | (10) METALS | | |
| | | | (11) OTHER *(specify)* | | |

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE *(place in descending order of hazard)*

| 1. SUBSTANCE | 2. FORM *(mark 'X')* | | | 3. TOXICITY *(mark 'X')* | | | | 4. CAS NUMBER | 5. AMOUNT | 6. UNIT |
|---|---|---|---|---|---|---|---|---|---|---|
| | a. SOLID | b. LIQ. | c. VAPOR | a. HIGH | b. MED. | c. LOW | d. NONE | | | |
| Asbestos | X | | | | | X | | | Unknown | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

## VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

☐ A. HUMAN HEALTH HAZARDS

*Continued From Page 4*

## VIII. HAZARD DESCRIPTION *(continued)*

☐ B. NON-WORKER INJURY/EXPOSURE

☐ C. WORKER INJURY/EXPOSURE

☐ D. CONTAMINATION OF WATER SUPPLY

☐ E. CONTAMINATION OF FOOD CHAIN

☐ F. CONTAMINATION OF GROUND WATER

☐ G. CONTAMINATION OF SURFACE WATER



*Continue On R*

*Continued From Front*

## VIII. HAZARD DESCRIPTION *(continued)*

☐ H. DAMAGE TO FLORA/FAUNA

☐ I. FISH KILL

☐ J. CONTAMINATION OF AIR

☐ K. NOTICEABLE ODORS

☐ L. CONTAMINATION OF SOIL

☐ M. PROPERTY DAMAGE

*Continued From Page 6*

## VIII. HAZARD DESCRIPTION *(continued)*

☐ N. FIRE OR EXPLOSION

☐ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

☐ P. SEWER, STORM DRAIN PROBLEMS

☐ Q. EROSION PROBLEMS

☐ R. INADEQUATE SECURITY

☐ S. INCOMPATIBLE WASTES

## VIII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING

☐ U. OTHER (specify):

## IX. POPULATION DIRECTLY AFFECTED BY SITE

| A. LOCATION OF POPULATION | B. APPROX. NO. OF PEOPLE AFFECTED | C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA | D. APPROX. NO. OF BUILDINGS AFFECTED | E. DISTANCE TO SITE (specify units) |
|---|---|---|---|---|
| 1. IN RESIDENTIAL AREAS | | | | |
| 2. IN COMMERCIAL OR INDUSTRIAL AREAS | None - isolated area (fenced) | None | None | N/A |
| 3. IN PUBLICLY TRAVELLED AREAS | | | | |
| 4. PUBLIC USE AREAS (parks, schools, etc.) | | | | |

## X. WATER AND HYDROLOGICAL DATA

| A. DEPTH TO GROUNDWATER (specify unit) | B. DIRECTION OF FLOW | C. GROUNDWATER USE IN VICINITY |
|---|---|---|
| perched water varing in depth from | S.E. | None |
| **D. POTENTIAL YIELD OF AQUIFER** | **E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure)** | **F. DIRECTION TO DRINKING WATER SUPPLY** |
| Unk - blackish water | 10 miles | West |

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS*

☒ 2. COMMUNITY (specify town): Brownsville
> 15 CONNECTIONS

☒ 3. SURFACE WATER

☐ 4. WELL

*Continued From Page 8*

## X. WATER AND HYDROLOGICAL DATA *(continued)*

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

| 1. WELL | 2. DEPTH *(specify unit)* | 3. LOCATION *(proximity to population/ buildings)* | 4. NON-COMMUNITY *(mark 'X')* | 5. COMMUNITY *(mark 'X')* |
|---|---|---|---|---|
| | | None | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

I. RECEIVING WATER

1. NAME: N/A

☐ 2. SEWERS ☐ 3. STREAMS/RIVERS ☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER *(specify)*:

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

## XI. SOIL AND VEGITATION DATA

LOCATION OF SITE IS IN:

☐ A. KNOWN FAULT ZONE ☐ B. KARST ZONE ☐ C. 100 YEAR FLOOD PLAIN ☐ D. WETLAND

☐ E. A REGULATED FLOODWAY ☐ F. CRITICAL HABITAT ☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

## XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

| 'X' | A. OVERBURDEN | 'X' | B. BEDROCK *(specify below)* | 'X' | C. OTHER *(specify below)* |
|---|---|---|---|---|---|
| | 1. SAND | | | | |
| X | 2. CLAY | | | | |
| | 3. GRAVEL | | | | |

## XIII. SOIL PERMEABILITY

☐ A. UNKNOWN ☐ B. VERY HIGH *(100,000 to 1000 cm/sec.)* ☐ C. HIGH *(1000 to 10 cm/sec.)*

☐ D. MODERATE *(10 to .1 cm/sec.)* ☒ E. LOW *(.1 to .001 cm/sec.)* ☐ F. VERY LOW *(.001 to .00001 cm/sec.)*

G. RECHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS:

H. DISCHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE: None

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.: Coastal Flats

J. OTHER GEOLOGICAL DATA

*Continued From Front*

## XIV. PERMIT INFORMATION

List all applicable permits held by the site and provide the related information.

| A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.) | B. ISSUING AGENCY | C. PERMIT NUMBER | D. DATE ISSUED (mo., day, & yr.) | E. EXPIRATION DATE (mo., day, & yr.) | F. IN COMPLIANCE (mark 'X') | | |
|---|---|---|---|---|---|---|---|
| | | | | | 1. YES | 2. NO | 3. UNKNOWN |
| None - site closed in 1975 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

☒ NONE ☐ YES *(summarize in this space)*

**NOTE: Based on the information in Sections III through XV, fill out the Tentative Disposition *(Section II)* information on the first page of this form.**

## LANDFILLS SITE INSPECTION REPORT
(Supplemental Report)

**INSTRUCTION**
Answer and Explain as Necessary.

1. EVIDENCE OF SITE INSTABILITY *(Erosion, Settling, Sink Holes, etc)*
☐ YES ☒ NO

2. EVIDENCE OF IMPROPER DISPOSAL OF BULK LIQUIDS, SEMI-SOLIDS AND SLUDGES INTO THE LANDFILL
☐ YES ☒ NO

3. CHECK RECORDS OF CELL LOCATION AND CONTENTS AND BENCHMARK
☒ YES ☐ NO

4. WASTES SURROUNDED BY SORBENT MATERIAL
☐ YES ☒ NO

5. DIVERSION STRUCTURES ARE EFFECTIVELY CONSTRUCTED AND PROPERLY MAINTAINED
☒ YES ☐ NO

6. EVIDENCE OF PONDING OF WATER ON SITE
☐ YES ☒ NO

7. EVIDENCE OF IMPROPER/INADEQUATE DRAINING
☐ YES ☒ NO

8. ADEQUATE LEACHATE COLLECTION SYSTEM *(If "Yes", specify Type)*
☐ YES ☒ NO Wastes are reportedly encapsulated in clay formation.

8a. SURFACE LEACHATE SPRING
☐ YES ☒ NO

9. RECORDS OF LEACHATE ANALYSIS
☒ YES ☐ NO

10. GAS MONITORING
☐ YES ☒ NO

11. GROUNDWATER MONITORING WELLS
☒ YES ☐ NO Pre-existing wells, into ground water down the hydraulic gradient from the site have been analyzed.

12. ARTIFICIAL MEMBRANE LINER INSTALLED
☐ YES ☒ NO

13. SPECIFIC CONTAINMENT MEASURES *(Clay Bottom, Sides, etc)*
☒ YES ☐ NO Encapsulated in clay formation.

14. FIXATION *(Stabilization)* OF WASTE
☐ YES ☒ NO

15. ADEQUATE CLOSURE OF INACTIVE PORTION OF FACILITY
☒ YES ☐ NO

16. COVER *(Type)*
Compacted clay

16a. THICKNESS
5'

16b. PERMEABILITY
$< 1 \times 10^{-7}$ cu/sec.

16c. DAILY APPLICATION
☐ YES ☒ NO

ATTACHMENT B

31108

RECEIVED

MAY 24

ENFORCEMENT FIELD OPERATIONS

UNION CARBIDE CORPORATION
COATINGS MATERIALS DIVISION
P.O. BOX 3370, BROWNSVILLE, TEXAS 78520

May 17, 1982

Mr. Harvey Davis, Executive Director
Texas Department of Water Resources
P. O. Box 13087, Capitol Station
Austin, Texas 78711

Solid Waste Registration No. 31108 and
Part A Hazardous Waste Permit Application
Cameron County

Dear Mr. Davis:

This letter is in response to your letter of February 23, 1982.

By means of this letter, we hereby notify you that we have installed a ground-water monitoring system for our surface impoundment in conformance with TDWR Rule 156.22.12.002. The wells were installed on May 4-6 by NFS/National Soil Services, Inc. in accordance with the guidelines received by our Messrs. J. L. Wyatt, K. G. Townsend, and W. H. Davies from Greg Tipple and J. G. Stadler of your Solid Waste Section at their technical conference on April 16.

A copy of NFS' well installation report is enclosed for your information.

In a forthcoming separate letter, we shall request a partial waiver concerning TDWR Rules 156.22.12.003-.005.

If you need further information, please contact Mr. W. H. Davies at (512) 831-4501, Extension 2281.

Very truly yours,

W. W. McManus by
R. C. Schmidt
Assistant Plant Manager

W. W. McManus
Plant Manager

WWM:mr
Att.
Via Certified Mail, Return Receipt Requested
Cc: Mr. Brian Dixon
Mr. John Sturgis w/att.
Mr. Greg Tipple w/att.

RECEIVED
JUN 8 1982
SWR/TDWR

NATIONAL SOIL SERVICES, INC. •
CONSULTING ENGINEERS
5814 HEFFERNAN STREET
HOUSTON, TEXAS 77087
713/644-9161, TWX: 910-881-5462

Report No. 8262
May 11, 1982

Union Carbide Corporation
Coatings Materials Division
P. O. Box 3370
Brownsville, TX 78520

Attention: Mr. W. H. Davies

MONITOR WELL INSTALLATION
WASTE PROCESSING AREA
BROWNSVILLE, TEXAS

Gentlemen:

Submitted here is our report on installation procedures and details for the recently completed monitor wells around the above referenced facility. Locations and general construction details of the wells were previously discussed with the Texas Department of Water Resources. Three wells were located to monitor potential seepage from the facility through the shallow sand stratum and a fourth well was located at a greater distance to monitor baseline conditions. This work was authorized by Purchase Order No. 526-344-016-4.

Monitor wells were installed at locations shown on Plate 1. Soil samples were obtained at each location to verify depth limits of the shallow sand stratum. Descriptions of the soils encountered and well installation details are shown on the logs of borings, Plates 2 through 5.

Drilling was done by the wash boring method using drill water obtained from the plant drinking water supply. Eight inch steel casing was set

ATTACHMENT

through the near surface fill soils prior to drilling into the sand stratum. After setting the casing to depths ranging from five to 12 feet, the boreholes were flushed with clear water, and then advanced to completion depths. The steel casing was extracted on completion of backfilling. An air compressor equipped with a filter was used to develop all wells.

We appreciate the opportunity to assist you on this project. Please call upon us if we can be of further assistance.

Very truly yours,

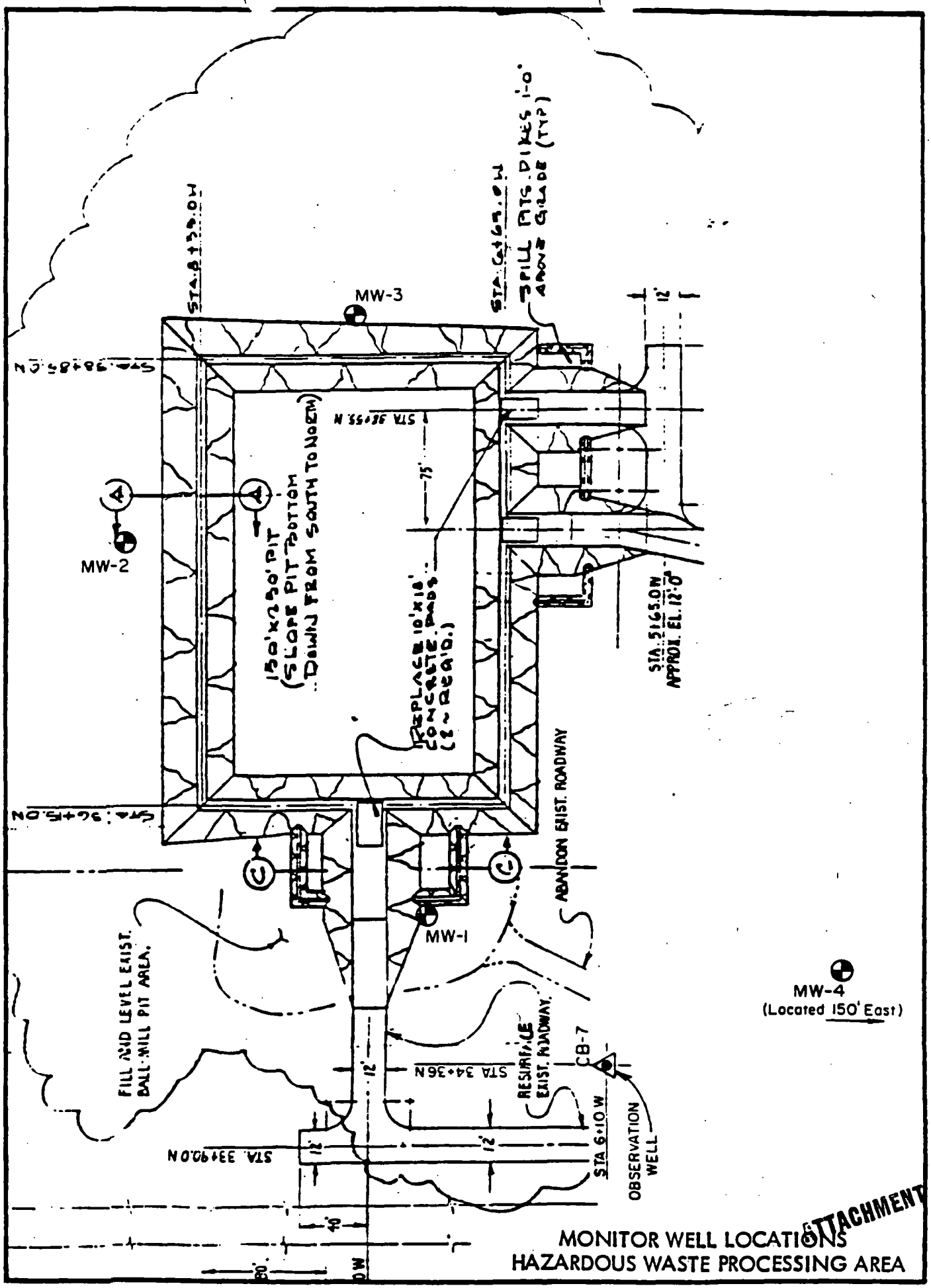
NFS SERVICES, INC.

Darryl E. Carlson
Chief Geologist

DEC/dp

Copies submitted: 5

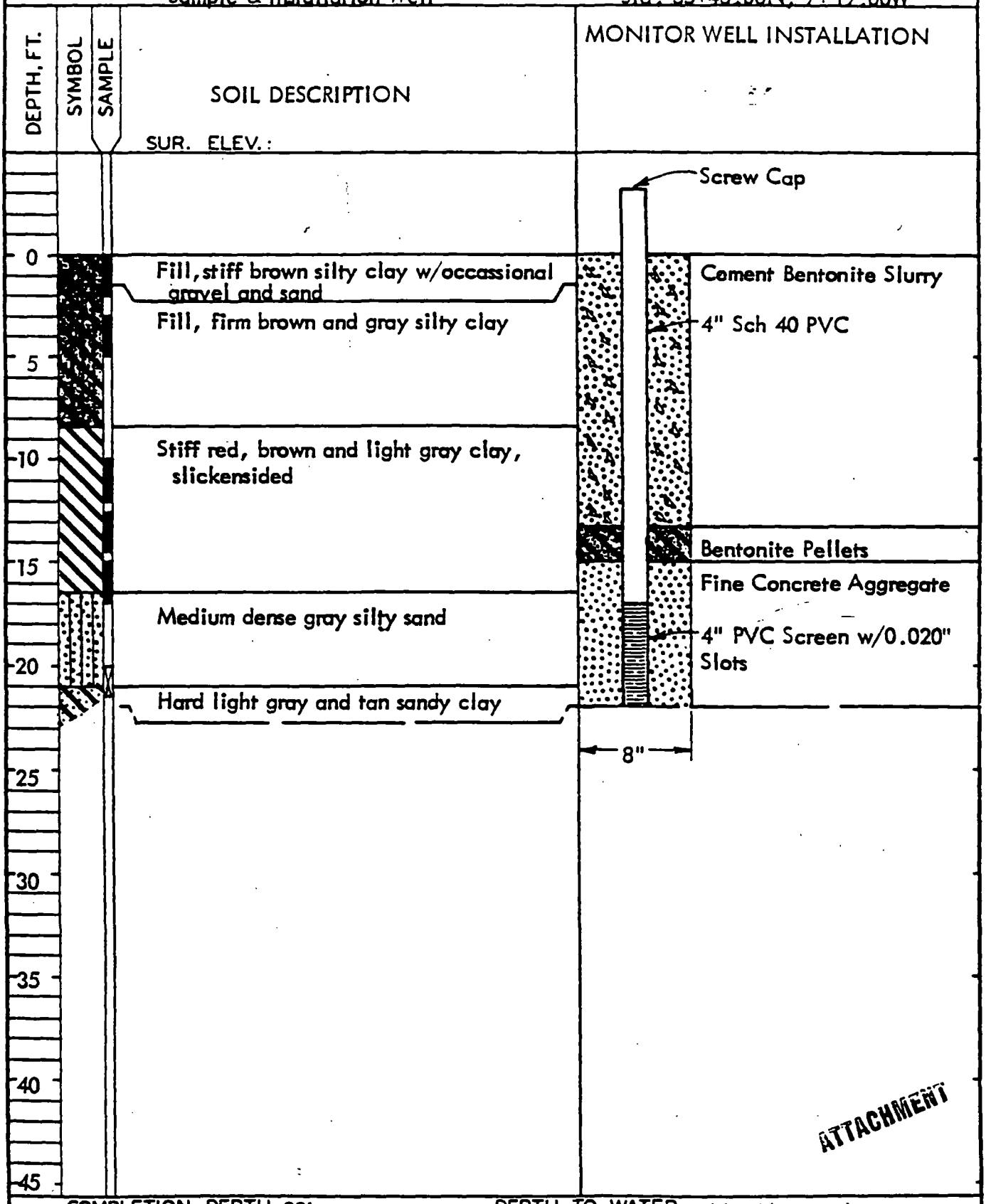
ATTACHMENT


MW-3
MW-2
MW-1
MW-4
(Located 150' East)
STA 8+39.0W
STA 6+69.6W
SPILL PITS DIKES 1'-0" ABOVE GRADE (TYP.)
STA 38+85.0N
STA 36+55N
75'
150'x250' PIT
(SLOPE PIT BOTTOM DOWN FROM SOUTH TO NORTH)
REPLACE 10'x18' CONCRETE PADS (2 ~ REQ'D.)
STA 5165.0N
APPROX. EL. 12'-0"
ABANDON EXIST. ROADWAY
STA 36+25.0N
FILL AND LEVEL EXIST. BALL MILL PIT AREA.
RESURFACE EXIST. ROADWAY
CB-7
STA 34+36N
STA 6+10W
OBSERVATION WELL
STA 33+90.0N
12'
40'
80'
DW
ATTACHMENT
MONITOR WELL LOCATIONS
HAZARDOUS WASTE PROCESSING AREA

# LOG OF BORING NO. MW-1

MONITOR WELLS
HAZARDOUS WASTE PROCESSING AREA
UCC - BROWNSVILLE, TEXAS

TYPE BORING: Sample & Installation Well LOCATION: Sta. 35+43.00N, 7+19.00W




ATTACHMENT

COMPLETION DEPTH: 22'
DATE: May 6, 1982

DEPTH TO WATER: Not Measured
DATE:

# LOG OF BORING NO. MW-2

MONITOR WELLS
HAZARDOUS WASTE PROCCESSING AREA
UCC - BROWNSVILLE, TEXAS

TYPE BORING: Sample & Installation Well LOCATION: Sta. 37+81.00N, 8+86.00W

| DEPTH, FT. | SYMBOL | SAMPLE | SOIL DESCRIPTION | MONITOR WELL INSTALLATION |
|---|---|---|---|---|
| | | | SUR. ELEV.: | |
| 0 | | | Firm gray, red and brown silty clay w/roots to 1' | Screw Cap; Cement Bentonite Slurry |
| 5 | | | - brown, red and gray w/occassional organic traces below 4' | 4" Sch 40 PVC |
| 10 | | | - w/occassional silt seams and laminations 9.5' - 11' | Bentonite Pellets; Fine Concrete Aggregate |
| 15 | | | Medium dense gray silty sand | 4" PVC Screen w/0.020" Slots |
| | | | Very stiff light gray and tan sandy clay w/ferrous stains to 17' - Hard below 18' | 8" |
| 20 | | | | |
| 25 | | | | |
| 30 | | | | |
| 35 | | | | |
| 40 | | | | |
| 45 | | | | |

COMPLETION DEPTH: 19.5' DEPTH TO WATER: 5.9'
DATE: May 4, 1982 DATE: May 6, 1982

ATTACHMENT

# LOG OF BORING NO. MW-3

MONITOR WELLS
HAZARDOUS WASTE PROCESSING AREA
UCC - BROWNSVILLE, TEXAS

TYPE BORING: Sample & Installation Well LOCATION: Sta. 39+12.00N, 7+57.00W

| DEPTH, FT. | SYMBOL | SAMPLE | SOIL DESCRIPTION | MONITOR WELL INSTALLATION |
|---|---|---|---|---|
| | | | SUR. ELEV.: | Screw Cap |
| 0 | | | Fill, stiff brown and light gray silty clay w/ sand and gravel | Cement Bentonite Slurry |
| | | | Firm brown and light gray silty clay w/traces calcareous material to 6' | 4" Sch 40 PVC |
| 5 | | | - stiff below 7' | |
| | | | - w/occassional silt pockets below 8' | |
| 10 | | | - very stiff below 12' | Bentonite Pellets |
| | | | | Fine Concrete Aggregate |
| 15 | | | Medium dense gray silty sand | 4" PVC Screen w/0.020" Slots |
| | | | Very stiff light gray and tan sandy clay w/occassional sand seams and laminations | |
| 20 | | | | 8" |
| 25 | | | | |
| 30 | | | | |
| 35 | | | | |
| 40 | | | | |
| 45 | | | | |

COMPLETION DEPTH: 19.5'
DATE: May 5, 1982

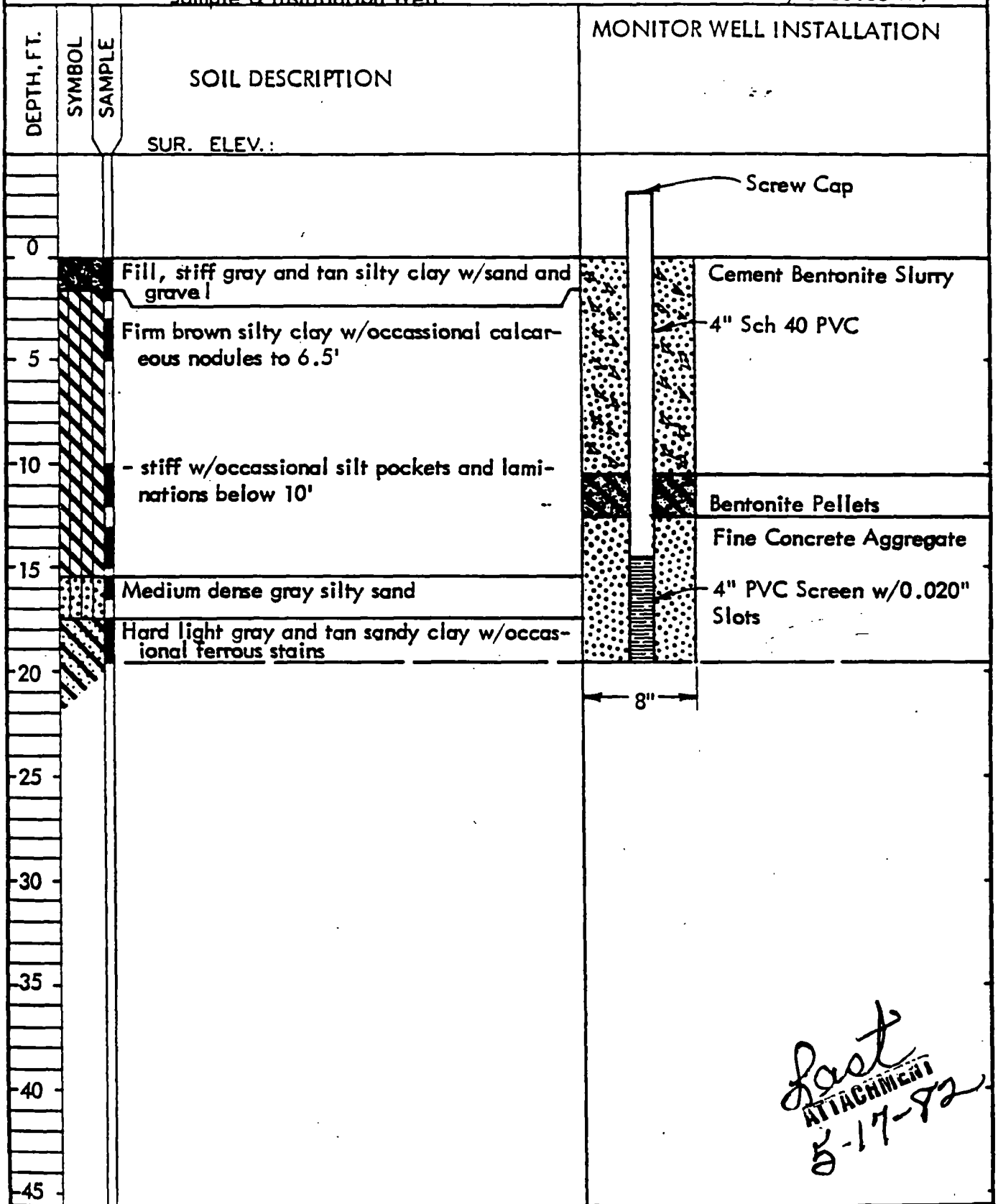
DEPTH TO WATER: Not Measured
DATE:

ATTACHMENT

# LOG OF BORING NO. MW-4

MONITOR WELLS
HAZARDOUS WASTE PROCESSING AREA
UCC - BROWNSVILLE, TEXAS

TYPE BORING: Sample & Installation Well  LOCATION: Sta 34+98.00N, 3+30.00 W.




COMPLETION DEPTH: 19.5'  DEPTH TO WATER: Not Measured
DATE: May 5, 1982  DATE:

Last ATTACHMENT 5-17-82

ATTACHMENT C

# TEXAS WATER COMMISSION



June 22, 1987

Mr. Allen C. Booth
Union Carbide Corporation
Engineering, Manufacturing and
Technology Service Department
Health, Safety and Environmental Technology
P. O. Box 8361
South Charleston, WV 25303

Re: Union Carbide Corporation, Brownsville Plant
Solid Waste Registration No. SW-31108
Comprehensive Ground Water Monitoring Evaluation

Dear Mr. Booth:

The subject facility was inspected on November 11, 1986 by representatives of our Austin and District 11 offices. This inspection included a Comprehensive Ground Water Monitoring Evaluation (CME). The purpose of the CME is to determine the adequacy of a site's interim status ground-water monitoring program. This review has been completed for this facility and it is the opinion of our technical staff that the ground-water contamination documented by TWC co-sampling results constitutes a violation of the Texas Administrative Code and Chapter 26 of the Texas Water Code and for which formal enforcement action may be taken:

31 TAC 335.4/Texas Water Code Chapter 26.121 - TWC co-sampling results indicate the release of numerous solid waste constituents into the ground water in the vicinity of the Ball Mill Residue Basin Waste Management Unit.

A discrepancy in the analytical results reported to the Commission was also noted. The TWC chloride results from the co-sampling of the RCRA monitor wells were significantly less than those reported by the facility.

The facility sampling and analysis plan should be augmented and updated to reflect that ground-water samples collected for Total Organic Carbon (TOC) should be preserved with either hydrochloric or sulfuric acid in the field or should be analyzed within 7 days of sample collection.

Within 30 days of receipt of this letter, submit to the RCRA Ground Water Enforcement Unit for review the following:

1. A ground-water quality investigation plan capable of determining the rate and extent of solid waste constituent migration in the uppermost and all hydraulically-connected lower aquifers;

2. A revised sampling and analysis plan to reflect the proper handling of TOC samples; and,

3. Corrected chloride concentration values for all four assessment sampling events.

If you have any question regarding the above, please contact Carol Boucher at (512)463-8425.

Sincerely,

Thomas P. Roth for

Samuel B. Pole, Chief
Hazardous and Solid Waste Enforcement Section
Hazardous and Solid Waste Division

CB:cb

cc: TWC District 11 office
Scott Huling, TWC H&SW Permits Section
TWC H&SW Reports and Management Section

ATTACHMENT D

TEXAS WATER COMMISSION

Joe D. Carter, Chairman
O. F. Dent, Commissioner
H. A. Beckwith, Commissioner

BULLETIN 6305

# RECONNAISSANCE INVESTIGATION OF THE GROUND-WATER RESOURCES OF THE GULF COAST REGION, TEXAS

By

Leonard A. Wood, R. K. Gabrysch, and Richard Marvin
United States Geological Survey

Prepared by the U.S. Geological Survey
in cooperation with the
Texas Water Commission

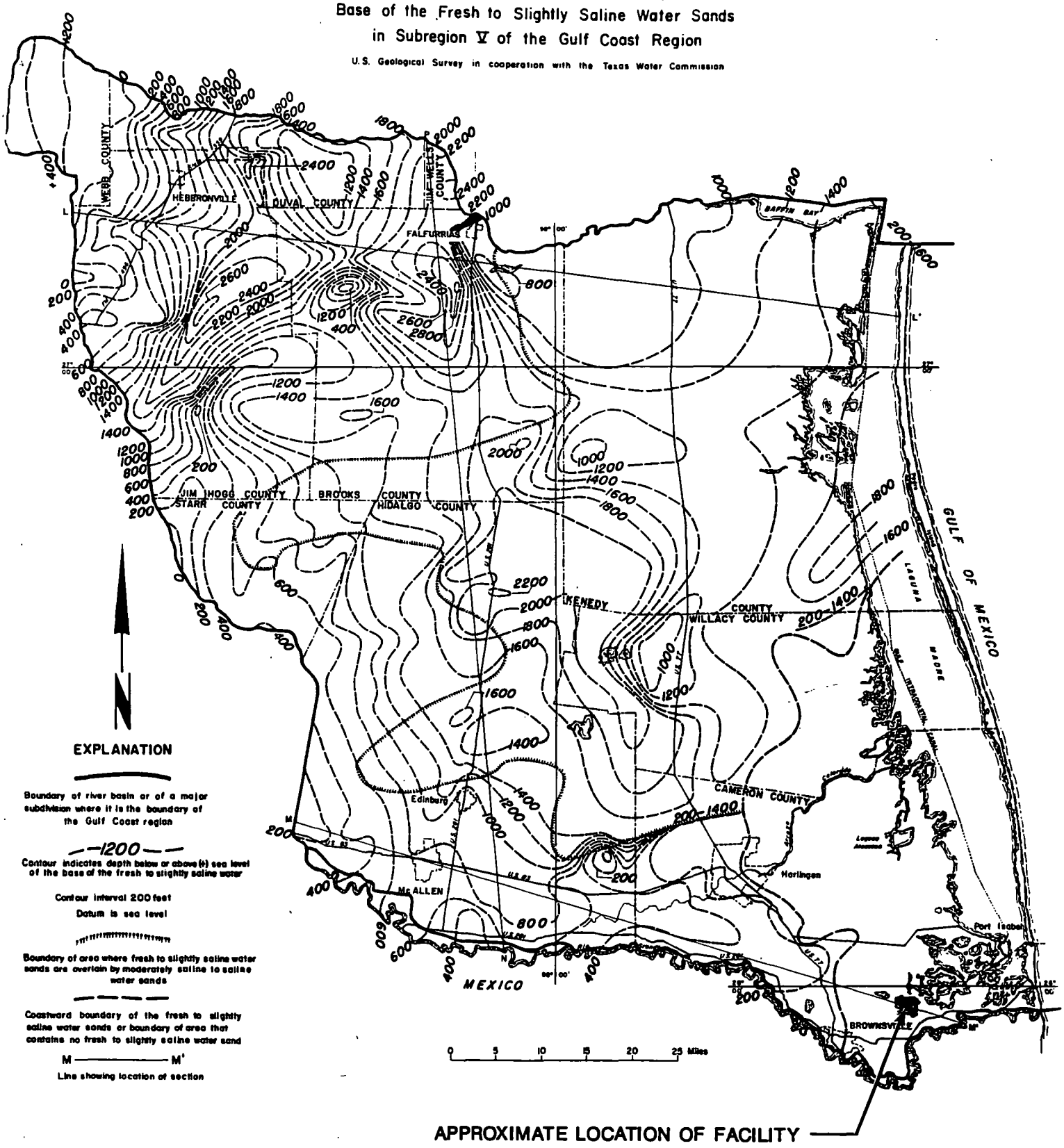
June 1963

Second Printing November 1971
by
Texas Water Development Board

# UNION CARBIDE CORPORATION
# BROWNSVILLE, TEXAS

## Base of the Fresh to Slightly Saline Water Sands in Subregion V of the Gulf Coast Region

U.S. Geological Survey in cooperation with the Texas Water Commission




### EXPLANATION

Boundary of river basin or of a major subdivision where it is the boundary of the Gulf Coast region

-1200-

Contour indicates depth below or above (+) sea level of the base of the fresh to slightly saline water

Contour interval 200 feet

Datum is sea level

Boundary of area where fresh to slightly saline water sands are overlain by moderately saline to saline water sands

Coastward boundary of the fresh to slightly saline water sands or boundary of area that contains no fresh to slightly saline water sand

M ——— M'

Line showing location of section

ATTACHMENT E

SE 8·10 31

# EPA Notification of Hazardous Waste Site

TXS·000·001·402 000843

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be received by June 9, 1981

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies

**A Person Required to Notify:**

Enter the name and address of the person or organization required to notify

Name: Union Carbide Corporation

Street: 270 Park Avenue

City: New York State: NY Zip Code: 10017

**B Site Location:** TXD 00-8114092 ac

Enter the common name (if known) and actual location of the site.

HAZ-TX00639 LK

Name of Site: Union Carbide Corporation - Turning Basin

Street: TX Highway 48, Port of Brownsville

City: Brownsville County: Cameron State: TX Zip Code: 78520

**C Person to Contact:**

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Parker, Dr. H.M., Tech. Mgr. Environmental Affairs

Phone: 212-551-4515

**D Dates of Waste Handling:**

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): 1950 To (Year): 1957

**E Waste Type:** Choose the option you prefer to complete

**Option 1:** Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

**General Type of Waste:**
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☐ Organics
2. ☒ Inorganics
3. ☐ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☒ Other (Specify)

Known contents Iron Oxide catalyst, non-hazardous

**Source of Waste:**
Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☒ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☐ Other (Specify)

**Option 2:** This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261).

**Specific Type of Waste:**
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

Form Approved
OMB No. 2060-0138

Notification of Hazardous Waste Site — Side Two

**Waste Quantity:**

Place an X in the appropriate boxes to indicate the facility types found at the site.

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

**Facility Type**

1. ☐ Piles
2. ☐ Land Treatment
3. ☐ Landfill
4. ☒ Tanks
5. ☒ Impoundment
6. ☒ Underground Injection *
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☐ Other (Specify) _____

**Total Facility Waste Amount**

cubic feet 17,000

gallons unknown

**Total Facility Area**

square feet unknown

acres _____

*Contents Unknown

**G Known, Suspected or Likely Releases to the Environment:**

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment.

☐ Known ☐ Suspected ☐ Likely ☐ I
X Unlikely

**Note:** Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and asse hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

**H Sketch Map of Site Location:** (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publish map showing the site location.

See attached map, which was included in our hazardous waste permit application submitted on November 10, 1980, to the EPA's Region VI Office in Dallas.

**I Description of Site:** (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

Union Carbide Corporation began using its surface impoundment site in 1975. This general area had also been used by AMOCO during the 1950's for waste and scrap disposal. The natural clays found in this area have a suitable plasticity index for waste impoundment and permeability meets state requirements.

Test wells drilled by the Texas Water Development Board and City of Brownsville found no potable water source within eight miles of the plant site.

*Underground injection used by Amoco, date and contents unknown.

JFW2

**J Signature and Title:**

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required to notify check "Other".

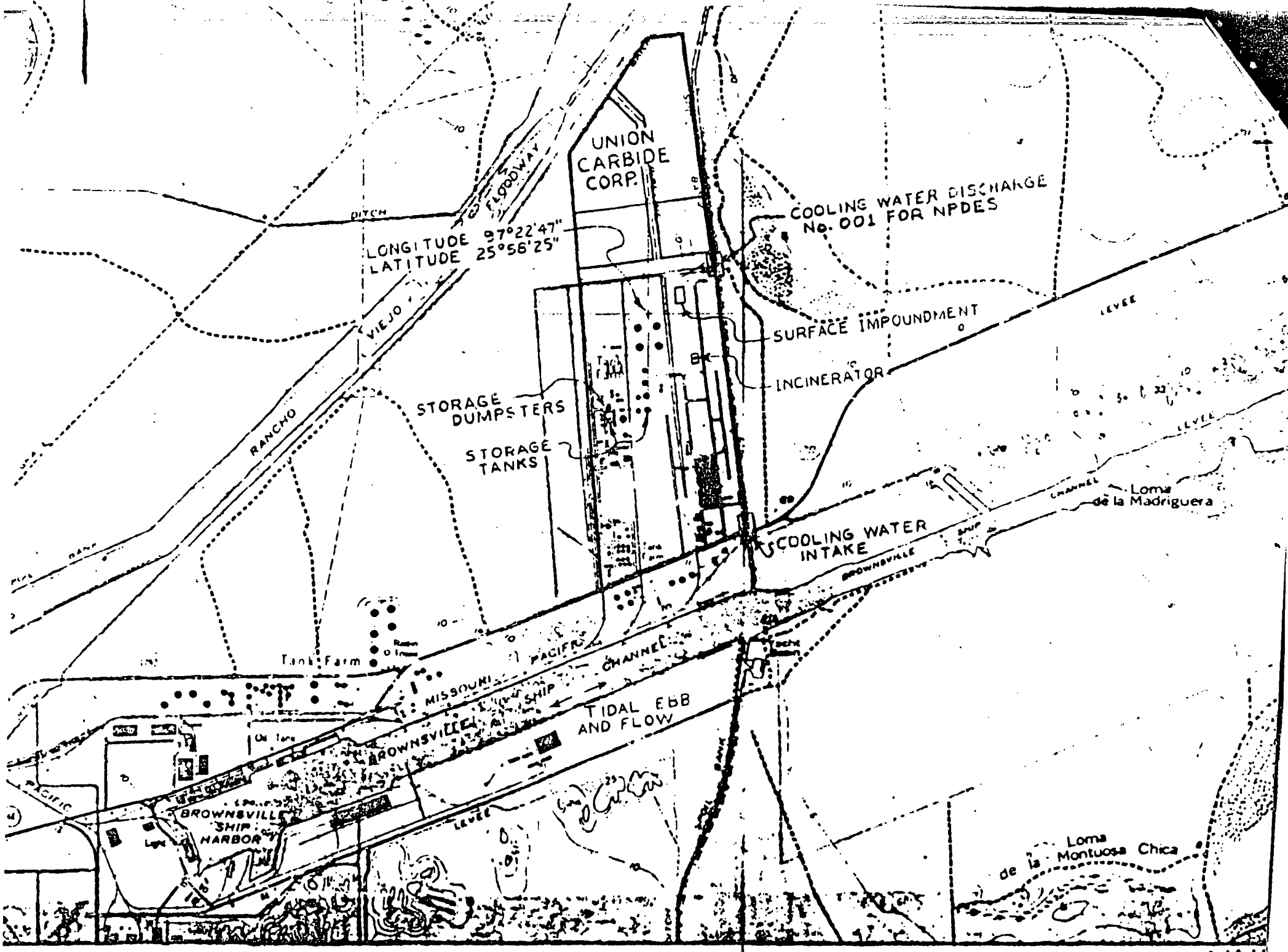
Name W. W. McManus, Plant Manager

Street P.O. Box 3370

City Brownsville State TX Zip Code 78520

Signature W. W. McManus Date May 15, 1981

☒ Owner, Preser
☒ Owner, Past
☐ Transporter
☒ Operator, Pres
☒ Operator, Past
☐ Other


UNION CARBIDE CORP.
FLOODWAY
DITCH
LONGITUDE 97°22'47"
LATITUDE 25°56'25"
COOLING WATER DISCHARGE No. 001 FOR NPDES
SURFACE IMPOUNDMENT
INCINERATOR
STORAGE DUMPSTERS
STORAGE TANKS
RANCHO VIEJO
LEVEE
Loma de la Madriguera
COOLING WATER INTAKE
CHANNEL
Tank Farm
MISSOURI PACIFIC
BROWNSVILLE SHIP CHANNEL
TIDAL EBB AND FLOW
BROWNSVILLE SHIP HARBOR
PACIFIC
Loma de la Montuosa Chica

ATTACHMENT F

TX00639

# EPA POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION: 6

SITE NUMBER (To be assigned by Reg): TX05096

**NOTE:** This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

**GENERAL INSTRUCTIONS:** Complete Sections I and III through X as completely as possible before Section II *(Preliminary Assessment)*. File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

## I. SITE IDENTIFICATION

A. SITE NAME: Brownsville Plant

B. STREET *(or other identifier)*:

C. CITY: Brownsville

D. STATE: Tx.

E. ZIP CODE: 78520

F. COUNTY NAME: Cameron

G. OWNER/OPERATOR *(If known)*

1. NAME: Amaco, Hydrocol, ITS

2. TELEPHONE NUMBER:

H. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4 MUNICIPAL ☒ 5 PRIVATE ☐ 6 UNKNOWN

I. SITE DESCRIPTION

An 11 acre lagoon, a one-acre solid waste site, and an injection well were utilized for waste disposal.

J. HOW IDENTIFIED *(i.e., citizen's complaints, OSHA citations, etc.)*

Waste disposal site survey
House of Representatives, 96th Congress

K. DATE IDENTIFIED *(mo., day, & yr.)*: 10/79

L. PRINCIPAL STATE CONTACT

1. NAME: Gary Schroeder

2. TELEPHONE NUMBER: (512) 475-6371

## II. PRELIMINARY ASSESSMENT *(complete this section last)*

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☐ 4 NONE ☐ 5 UNKNOWN

B. RECOMMENDATION

☒ 1. NO ACTION NEEDED *(no hazard)*

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 4. SITE INSPECTION NEEDED *(low priority)*

C. PREPARER INFORMATION

1. NAME: Charles Rhodes

2. TELEPHONE NUMBER: (512) 968-3165

3. DATE *(mo., day, & yr.)*: 4/1/80

## III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE *(Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)*

☒ 2. INACTIVE *(Those sites which no longer receive wastes.)*

☐ 3. OTHER *(specify)*: _____ *(Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)*

B. IS GENERATOR ON SITE?

☒ 1. NO ☐ 2. YES *(specify generator's four-digit SIC Code)*:

C. AREA OF SITE *(In acres)*: 12

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES

1. LATITUDE *(deg.—min.—sec.)*:

2. LONGITUDE *(deg.—min.—sec.)*:

E. ARE THERE BUILDINGS ON THE SITE?

☒ 1. NO ☐ 2. YES *(specify)*:



Continue On Reverse

Continued From ... t

## V. CHARACTERIZATION OF SITE ACTIVITIES

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

| 'X' | A. TRANSPORTER | 'X' | B. STORER | 'X' | C. TREATER | 'X' | D. DISPOSER |
|---|---|---|---|---|---|---|---|
| | 1. RAIL | | 1. PILE | | 1. FILTRATION | X | 1. LANDFILL |
| | 2. SHIP | | 2. SURFACE IMPOUNDMENT | | 2. INCINERATION | | 2. LANDFARM |
| | 3. BARGE | | 3. DRUMS | | 3. VOLUME REDUCTION | | 3. OPEN DUMP |
| | 4. TRUCK | | 4. TANK, ABOVE GROUND | | 4. RECYCLING/RECOVERY | X | 4. SURFACE IMPOUNDMENT |
| | 5. PIPELINE | | 5. TANK, BELOW GROUND | | 5. CHEM./PHYS. TREATMENT | | 5. MIDNIGHT DUMPING |
| | 6. OTHER (specify): | | 6. OTHER (specify): | | 6. BIOLOGICAL TREATMENT | X | 6. INCINERATION |
| | | | | | 7. WASTE OIL REPROCESSING | X | 7. UNDERGROUND INJECTION |
| | | | | | 8. SOLVENT RECOVERY | | 8. OTHER (specify): |
| | | | | | 9. OTHER (specify): | | |

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED The site was operated by three companies involved in a government-subsidized program researching the manufacturing and marketing potentials of gasoline and organic chamicals from natural gas.

## V. WASTE RELATED INFORMATION

A. WASTE TYPE

[ ] 1 UNKNOWN [X] 2. LIQUID [X] 3. SOLID [ ] 4. SLUDGE [ ] 5. GAS

B. WASTE CHARACTERISTICS

[ ] 1. UNKNOWN [ ] 2. CORROSIVE [ ] 3. IGNITABLE [ ] 4. RADIOACTIVE [ ] 5 HIGHLY VOLATILE
[ ] 6. TOXIC [ ] 7. REACTIVE [X] 8. INERT [ ] 9. FLAMMABLE

[ ] 10. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No - figures given in waste disposal site survey were estimates.

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

| a. SLUDGE | b. OIL | c. SOLVENTS | d. CHEMICALS | e. SOLIDS | f. OTHER |
|---|---|---|---|---|---|
| AMOUNT | AMOUNT | AMOUNT | AMOUNT Unknown | AMOUNT 3,000 | AMOUNT — |
| UNIT OF MEASURE | UNIT OF MEASURE | UNIT OF MEASURE | UNIT OF MEASURE | UNIT OF MEASURE Cu. yds. | UNIT OF MEASURE |
| [ ] (1) PAINT, PIGMENTS | [ ] (1) OILY WASTES | [ ] (1) HALOGENATED SOLVENTS | [X] (1) ACIDS | [ ] (1) FLYASH | [ ] (1) LABORATORY PHARMACEUT. |
| [ ] (2) METALS SLUDGES | [ ] (2) OTHER (specify): | [ ] (2) NON-HALOGNTD. SOLVENTS | [ ] (2) PICKLING LIQUORS | [X] (2) ASBESTOS | [ ] (2) HOSPITAL |
| [ ] (3) POTW | | [ ] (3) OTHER (specify): | [ ] (3) CAUSTICS | [ ] (3) MILLING/ MINE TAILINGS | [ ] (3) RADIOACTIVE |
| [ ] (4) ALUMINUM SLUDGE | | | [ ] (4) PESTICIDES | [ ] (4) FERROUS SMLTG. WASTES | [ ] (4) MUNICIPAL |
| [ ] (5) OTHER (specify): | | | [ ] (5) DYES/INKS | [ ] (5) NON-FERROUS SMLTG. WASTES | [ ] (5) OTHER (specify): |
| | | | [ ] (6) CYANIDE | [ ] (6) OTHER (specify): Iron Catalyst of $F_2O_3$ composition 933 tons. | |
| | | | [ ] (7) PHENOLS | | |
| | | | [ ] (8) HALOGENS | | |
| | | | [ ] (9) PCB | | |
| | | | [ ] (10) METALS | | |
| | | | [ ] (11) OTHER (specify) | | |







Continue On Page 3

ontinued From Page 2

## V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

Asbestos
Acids
Iron Catalyst

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

The asbestos is in 2-foot thick mats buried beneath 3-4 feet of dirt, elevation about 15 ft. above msl. Area of disposal = 200 feet X 200 feet. Acids were disposed of by underground injection. $Fe_2O_3$ is basically inert, non hazardous.

## VI. HAZARD DESCRIPTION

| A. TYPE OF HAZARD | B. POTENTIAL HAZARD (mark 'X') | C. ALLEGED INCIDENT (mark 'X') | D. DATE OF INCIDENT (mo., day, yr.) | E. REMARKS |
|---|---|---|---|---|
| 1. NO HAZARD | | | | |
| 2. HUMAN HEALTH | | | | |
| 3. NON-WORKER INJURY/EXPOSURE | | | | |
| 4. WORKER INJURY | | | | |
| 5. CONTAMINATION OF WATER SUPPLY | | | | |
| 6. CONTAMINATION OF FOOD CHAIN | | | | |
| 7. CONTAMINATION OF GROUND WATER | | | | |
| 8. CONTAMINATION OF SURFACE WATER | | | | |
| 9. DAMAGE TO FLORA/FAUNA | | | | |
| 10. FISH KILL | | | | |
| 11. CONTAMINATION OF AIR | | | | |
| 12. NOTICEABLE ODORS | | | | |
| 13. CONTAMINATION OF SOIL | | | | |
| 14. PROPERTY DAMAGE | | | | |
| 15. FIRE OR EXPLOSION | | | | |
| 16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS | | | | |
| 17. SEWER, STORM DRAIN PROBLEMS | | | | |
| 18. EROSION PROBLEMS | | | | |
| 19. INADEQUATE SECURITY | | | | |
| 20. INCOMPATIBLE WASTES | | | | |
| 21. MIDNIGHT DUMPING | | | | |
| 22. OTHER (specify): See site description page attached. | | | | |

 Continue On Reverse

Continued From Front

## VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE. N/A

☐ 1. NPDES PERMIT ☐ 2. SPCC PLAN ☐ 3. STATE PERMIT (specify): _____
☐ 4. AIR PERMITS ☐ 5. LOCAL PERMIT ☐ 6. RCRA TRANSPORTER
☐ 7. RCRA STORER ☐ 8. RCRA TREATER ☐ 9 RCRA DISPOSER

☐ 10. OTHER (specify): _____

B. IN COMPLIANCE? N/A
☐ 1. YES ☐ 2. NO ☐ 3. UNKNOWN

4. WITH RESPECT TO (list regulation name & number): _____

## VIII. PAST REGULATORY ACTIONS

☐ A. NONE ☐ B. YES (summarize below) N/A

## IX. INSPECTION ACTIVITY (past or on-going)

☐ A. NONE ☐ B. YES (complete items 1,2,3, & 4 below)

| 1. TYPE OF ACTIVITY | 2 DATE OF PAST ACTION (mo., day, & yr.) | 3 PERFORMED BY: (EPA/State) | 4. DESCRIPTION |
|---|---|---|---|
| Inspection | 11/14/79 | State | No hazard identified |
| Inspection | 2/7/79 | EPA | |
| Inspection | 7/27/78 | State | |

## X. REMEDIAL ACTIVITY (past or on-going)

☒ A. NONE ☐ B. YES (complete items 1, 2, 3, & 4 below)

| 1. TYPE OF ACTIVITY | 2. DATE OF PAST ACTION (mo., day, & yr.) | 3. PERFORMED BY: (EPA/State) | 4. DESCRIPTION |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment *(Section II)* information on the first page of this form.**

## SITE DESCRIPTION

**Make additional comments or narrative description of situation known or reported to exist at the site based on file review. Include dates and description of any incidents documented in file.**

TDWR Interoffice Memo (1-8-80) subject "Waste Disposal Site Survey" indicated that in the past this site served as for disposal for three companies: Amoco, Hydrocol and ITS. These three companies were involved in a government subsidized project developed for the manufacturing and marketing of gasoline and organic chemicals from natural gas.

Apparently, a disposal well was utilized; however, little is known about the well except that it was situated on Brownsville Navigation District property under lease to Amoco.

Two pits, reportedly used as oil separation facilities, have been filled in to grade.

No problems have come to light relative to these facilities. Water quality in the nearby Brownsville Ship Channel is well within established TDWR water quality standards.

ATTACHMENT G

TXD-000-801-622 (1-8)

FORM B: DISPOSAL SITE INFORMATION (DO NOT USE)

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: * AMOCO (NOW KNOWN AS UNION CARBIDE CORP.)
Facility Name: BROWNSVILLE PLANT
Name of Site: BROWNSVILLE PLANT
Address of Site: PORT OF BROWNSVILLE PLANT
no. street

✓TXD-00-811-4092✓
HAZ-TX00639

BROWNSVILLE TX 78520
city state zip code

Name of Owner (while used by facility): AMOCO
Address:
no. street

city state zip code

Current Owner (if different from above):
Address:
no. street

city state zip code

1. Location (1= the property on which facility is located; 2= off-site) ..... [1] (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) ..... [1] (11)
3. Current status (1= closed; 2= still in use; 9=don't know) ..... [1] (12)
   IF CLOSED, specify year closed ..... 19[57] (13-14)
4. Year first used for process waste from this facility ..... 19[50] (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) ..... 19[57] (17-18)
6. Total amount of process waste from this facility disposed at site:
   thousand gallons ..... [9] (19-26)
   hundred tons ..... [9] (27-33)
   thousand cubic yards ..... [2] (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)
   landfill, mono industrial waste ..... [2] (42)
   landfill, mixed industrial waste ..... [2] (43)
   landfill, drummed waste ..... [9] (44)
   landfill, municipal refuse co-disposed ... [9] (45)
   pits/ponds/lagoons ..... [2] (46)
   deep well injection ..... [2] (47)
   land farming ..... [3] (48)
   incineration ..... [2] (49)
   treatment (eg. neutralizing) ..... [9] (50)
   reprocessing/recycling ..... [9] (51)
   other (specify) _____ .... [9] (52)
8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) ..... [1] (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

* AMOCo OWNED THIS FACILITY FROM 1950 TO 1957, PRIOR TO PURCHASE BY UNION CARBIDE CORPORATIO

FORM B CONTINUED ON SECOND PAGE

[1] (80)

(DO NOT USE)

Company Name: AMOCO

Facility Name: BROWNSVILLE PLANT

Site Name: PORT OF BROWNSVILLE PLANT

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

| | | |
|---|---|---|
| Acid solutions, with pH<3 | 1 | (10) |
| pickling liquor | 2 | (11) |
| metal plating waste | 2 | (12) |
| circuit etchings | 2 | (13) |
| inorganic acid manufacture | 2 | (14) |
| organic acid manufacture | 1 | (15) |
| Base solutions, with pH>12 | 2 | (16) |
| caustic soda manufacture | 2 | (17) |
| nylon and similar polymer generation | 2 | (18) |
| scrubber residual | 2 | (19) |
| Heavy metals & trace metals (bonded organically & inorganically) | 2 | (20) |
| arsenic, selenium, antimony | 2 | (21) |
| mercury | 2 | (22) |
| iron, manganese, magnesium | 1 | (23) |
| zinc, cadmium, copper, chromium (trivalent) | 2 | (24) |
| chromium (hexavalent) | 2 | (25) |
| lead | 2 | (26) |
| Radioactive residues, >50pico curies/gram | 2 | (27) |
| uranium residuals & residuals for $UF_6$ recycling | 2 | (28) |
| lathanide series elements and rare earth salts | 2 | (29) |
| phosphate slag | 2 | (30) |
| thorium | 2 | (31) |
| radium | 2 | (32) |
| other alpha, beta & gamma emitters | 2 | (33) |
| Organics | 2 | (34) |
| Insecticides & intermediates | 2 | (35) |
| herbicides & intermediates | 2 | (36) |
| fungicides & intermediates | 2 | (37) |
| rodenticides & intermediates | 2 | (38) |
| halogenated aliphatics | 2 | (39) |
| halogenated aromatics | 2 | (40) |
| acrylates & latex emulsions | 2 | (41) |
| PCB/PBB's | 2 | (42) |
| amides, amines, imides | 2 | (43) |
| plastizers | 2 | (44) |
| resins | 2 | (45) |
| elastomers | 2 | (46) |
| solvents polar (except water) | 2 | (47) |
| carbontetrachloride | 2 | (48) |
| trichloroethylene | 2 | (49) |
| other solvents nonpolar | 2 | (50) |
| solvents halogenated aliphatic | 2 | (51) |
| solvents halogenated aromatic | 2 | (52) |
| oils and oil sludges | 1 | (53) |
| esters and ethers | 1 | (54) |
| alcohols | 1 | (55) |
| ketones & aldehydes | 1 | (56) |
| dioxins | 2 | (57) |
| Inorganics | 9 | (58) |
| salts | 9 | (59) |
| mercaptans | 9 | (60) |
| Misc | 9 | (61) |
| pharmaceutical wastes | 2 | (62) |
| paints & pigments | 2 | (63) |
| catalysts (eg. vanadium, platinum, palladium) | 9 | (64) |
| asbestos | 1 | (65) * |
| shock sensitive wastes (eg. nitrated toluenes) | 2 | (66) |
| air water reactive wastes (eg. $P_4$, aluminum chloride) | 2 | (67) |
| wastes with flash point below $100^{o}$ F | 2 | (68) |

* ≈2000 CU YDS. OF ASBESTOS INSULATION IS BURIED ON SITE IN NORTHEAST CORNER OF PROPERTY. ALSO ≈ 370 CU YD. PERLITE.

(1-5)
(DO NOT USE)

FORM C: HAULER INFORMATION

PROVIDE A COMPLETE LIST OF ALL FIRMS AND INDEPENDENT CONTRACTORS, INCLUDING THE COMPANY AND ITS AFFILIATES AND SUBSIDIARIES, USED TO REMOVE PROCESS WASTES FROM THIS FACILITY SINCE 1950.

Company Name: UNION CARBIDE CORPORATION, CHEMICALS AND PLASTICS

Facility Name: BROWNSVILLE PLANT

| Name of Firm or Contractor | Address | ICC # (If Known) | Years Used |
|---|---|---|---|
| General Electric Service Shops | 8800 Wallisville Rd. Houston, TX | | 1 * |

* One shipment only.

BROWNSVILLE PLANT

UNION CARBIDE CORPORATION - CHEMICALS AND PLASTICS

SURVEY OF WASTE SITES - ECKHARDT QUESTIONNAIRE

| FORM | INFORMATION SOURCE | | | | INFORMATION TYPE | | |
|---|---|---|---|---|---|---|---|
| | MANAGER | SUPERVISOR | EMPLOYEE | RETIREE | RECORDS | ESTIMATE | MEMORY |
| A - General Facility Info. | X | | | .. | X | | |
| B - Disposal Site Info. | | | | | | | |
| On-Site | X | | X | | X | | X |
| Contractor | X | | | | X | | |
| Contractor | | | | | | | |
| Contractor | | | | | | | |
| Contractor | | | | | | | |
| Contractor | | | | | | | |
| Contractor | | | | | | | |
| C - Hauler Info. | X | | | | X | | |
| D - Supplemental Hauler Info. | | | | | | | |
| Hauler | | | | | | | |
| Hauler | | | | | | | |

INSTRUCTIONS

1 - Under B list name of On-site Facility (Ex. - Ponce Plant).
2 - Under B list name of Contractor (Ex. NEWCO).
3 - Under D list Haulers or Disposers who took process waste from your facility to an unknown location.

COMMENT

Groups interviewed have been encouraged to speculate on contents and quantities rather than list as unknow.